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*To ensure access to high-quality,  
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September 03, 2013

The Honorable Board of Supervisors  
County of Los Angeles  
383 Kenneth Hahn Hall of Administration  
500 West Temple Street  
Los Angeles, California 90012

Dear Supervisors:

**AUTHORIZE THE PURCHASE OF NEW NETWORK INFRASTRUCTURE  
HARDWARE FOR THE DEPARTMENT OF HEALTH SERVICES DATA  
CENTER  
(ALL SUPERVISORIAL DISTRICTS)  
(3 VOTES)**

**CIO RECOMMENDATION: APPROVE (X) APPROVE WITH MODIFICATION  
( )  
DISAPPROVE ( )**

**SUBJECT**

Authorize the purchase of new network infrastructure hardware for the Department of Health Services' Data Center located at LAC+USC Medical Center.

**IT IS RECOMMENDED THAT THE BOARD:**

Authorize the Internal Services Department (ISD), as the County's Purchasing Agent, to proceed with the purchase of new network infrastructure hardware for the Department of Health Services' (DHS) Data Center located at LAC+USC Medical Center (LAC+USC MC), with a total cost of approximately \$954,149. In accordance with County Purchasing Policy #P-2710, the Board's approval is required to purchase capital assets (formally referred to as fixed assets) that exceed the \$250,000 threshold established by the Board.

## **PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION**

Approval of this action will allow for the acquisition of new network infrastructure hardware for the DHS Data Center located at LAC+USC MC. The new network infrastructure hardware is needed to: 1) centralize and build redundancy between the Data Center located at LAC+USC MC and the DHS Interim Data Center located at Martin Luther King, Jr. Multi-Service Ambulatory Care Center (MLK MACC); 2) provide ongoing data communication between the two Data Centers; and 3) provide the necessary configuration to implement DHS' various systems consolidation strategies, such as Online Real-time Centralized Health Information Database (ORCHID), DHS' new Electronic Health Record System, the QuadraMed consolidation hardware refresh for the DHS Facilities, the Fuji Radiology Picture Archiving and Communication Systems consolidation for the DHS Facilities, the County's Virtualization efforts, departmental centralized back-up solution efforts, and Storage Area Network duplication between the two Data Centers.

The new network Infrastructure hardware will:

1. Provide network duplication, data network redundancy by having multiple points of data entry for the ORCHID implementation, and eliminate single point of network failure. If one Data Center is down, the other Data Center will be active and available by all DHS Facilities.
2. Provide future data growth; the hardware will include sufficient data capacity to meet DHS' current needs and will also allow for additional hardware expansion as DHS' needs increase.
3. Provide high-speed transfer of data to, from, and between the two Data Centers.
4. Provide firewall security; 24/7 data balancing by redirecting data traffic flow to prevent the slow down of data delivery; and other DHS data services.

On October 16, 2001, the Board adopted a purchasing policy whereby departments must obtain Board approval to purchase or finance equipment with a unit or system cost of \$250,000 or greater prior to submitting the requisition to the County's Purchasing Agent. This hardware exceeds the established \$250,000 threshold for capital asset purchases and requires the Board's approval to proceed with the purchasing transaction.

## **Implementation of Strategic Plan Goals**

The recommended action will support Goal 1, Operational Effectiveness, of the County's Strategic Plan.

## **FISCAL IMPACT/FINANCING**

The total one-time estimated net cost of the hardware is approximately \$954,149 and includes support, installation, configuration, and testing. The cost includes a Trade-in Credit of \$409,608 for obsolete network hardware. The details comprising the estimated total costs are shown in Attachment II.

Funding is included in the Capital Project – Electronic Health Record Information System (known as ORCHID), Fund (J-16-HE) Fiscal Year 2013-14 Adopted Budget for County Infrastructure.

### **FACTS AND PROVISIONS/LEGAL REQUIREMENTS**

On October 16, 2001, the Board approved the classification categories for fixed assets and new requirements for major capital assets purchases requiring County departments to obtain Board approval to purchase or finance equipment with a unit cost of \$250,000 or greater prior to submitting their requisition to the County's Purchasing Agent.

The County's Chief Information Officer recommends approval of this purchase and that Office's Analysis is attached (Attachment I).

### **CONTRACTING PROCESS**

This is a commodity purchase under the statutory authority of the County's Purchasing Agent. This acquisition will be competitively bid by the County's Purchasing Agent in accordance with the standard County Purchasing Policies and Procedures established by ISD.

### **IMPACT ON CURRENT SERVICES (OR PROJECTS)**

Approval of the recommendation will ensure the necessary new network infrastructure hardware is purchased for the Data Center located at LAC+USC MC to centralize and build redundancy between the two Data Centers; provide ongoing data communication between the two Data Centers; and provide the necessary configuration to implement DHS' various Systems consolidation strategies.

Respectfully submitted,

Handwritten signature of Mitchell H. Katz in black ink.

Mitchell H. Katz, M.D.

Director

Handwritten signature of Richard Sanchez in black ink, with "Reviewed By:" printed above it.

RICHARD SANCHEZ

Chief Information Officer

MHK:RS:lr

Enclosures

c: Chief Executive Office  
County Counsel  
Executive Office, Board of Supervisors  
Internal Services Department



RICHARD SANCHEZ  
CHIEF INFORMATION OFFICER

Office of the CIO  
**CIO Analysis**

NUMBER:

**CA13-16**

DATE:

08/14/13

SUBJECT:

**AUTHORIZE THE PURCHASE OF NEW NETWORK INFRASTRUCTURE HARDWARE  
FOR THE DEPARTMENT OF HEALTH SERVICES DATA CENTER**

RECOMMENDATION:

☒ Approve☐ Approve with Modification☐ Disapprove

CONTRACT TYPE:

☐ New Contract☐ Sole Source☐ Amendment to Contract☒ Other: Fixed Asset Purchase over \$250,000

CONTRACT COMPONENTS:

☒ Software☒ Hardware☐ Telecommunications☒ Professional Services

SUMMARY:

Department Executive Sponsor: **Mitchell H. Katz, M.D., Director of Health Services**

Description: Authorize the Internal Services Department (ISD), as the County's Purchasing Agent, to proceed with the purchase of new network infrastructure hardware for the Department of Health Services Data Center located at LAC+USC Medical Center, with a total cost of approximately \$954,149.

Contract Amount: **\$954,149**

Funding Source: **DHS Fiscal Year (FY) 2013-14  
Operating Budget**

☐ Legislative or Regulatory Mandate☐ Subvened/Grant Funded: Enter %

**Strategic and  
Business Analysis**

PROJECT GOALS AND OBJECTIVES:

The project objective is to build the infrastructure for the Department of Health Services' (DHS) secondary data center located at LAC+USC Medical Center (LAC+USC MC). Currently, DHS is building the Martin Luther King, Jr. Multi-Service Ambulatory Care Center (MLK-MACC) Data Center as the interim primary data center and LAC+USC MC as the secondary data center. This implementation will provide DHS a robust network infrastructure between the two data centers that will help with failover, build redundancy, provide enough bandwidth for future data growth, provide high-speed transfer of data, and 24/7 data security and balancing.

**BUSINESS DRIVERS:**

The business driver for this project is to build a robust link between the two data centers. With Health Care Reform and the DHS implementation of Electronic Health Record (EHR) called Online Real-Time Centralized Health Information Database (ORCHID), DHS needs to have reliable facilities to run its applications. MLK-MACC and LAC+USC MC Data Centers will provide failover capability to most of the applications in DHS, as well as be the two redundant network entry points from the Cerner hosted ORCHID in Kansas City's Data Center.

**PROJECT ORGANIZATION:**

Enrique Garcia, Associate Chief Information Systems, is DHS' IT Project Executive Sponsor. The project will be managed by Juan Franco, Principal Network Systems Analyst, DHS' Security Operations.

**PERFORMANCE METRICS:**

The primary performance metrics for hardware is to improve the reliability and redundancy of the Data Center and the DHS applications. To ensure this implementation is completed on time, a project plan will be prepared by the vendor and monitored by the DHS Executive Sponsor and Project Manager.

**STRATEGIC AND BUSINESS ALIGNMENT:**

This project is aligned with the Department's goal to implement a reliable computing infrastructure for the Department's systems.

**PROJECT APPROACH:**

The selected vendor will prepare, plan, design, and implement the Nexus 7000 and prepare, plan, design, and implement firewall security for the Data Center located at LAC+USC MC. The implementation is projected to take about six weeks.

**ALTERNATIVES ANALYZED:**

This is a brand-specific commodity purchase under the statutory authority of the County's Purchasing Agent where the acquisition will be competitively bid with the lowest cost vendor selected.

**Technical Analysis****ANALYSIS OF PROPOSED IT SOLUTION:**

The requested hardware will provide:

**Improved Infrastructure**

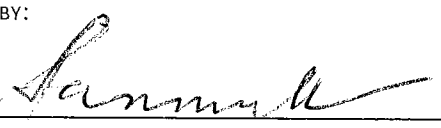
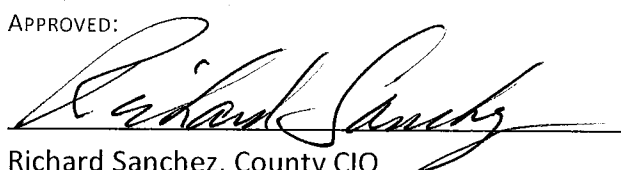
- The network redundancy will eliminate a single point of failure; if one Data Center is down, the other will be live and accessible by all DHS Facilities. The configuration will support active/active and active/passive failover capabilities (it will depend on the application also). Provide high-availability by doubling the points of entry and the probability of total lack of data access becomes extremely low. This is especially true for ORCHID – the new EHR system that will be hosted by Cerner offsite.
- Security, load-balancing, and shared services will be improved; the proposed configuration allows for redirecting data traffic flow based on load at any time to prevent slowdown of data delivery to the intended recipient.
- The modular 10-Gigabyte (GB) high bandwidth throughout backbone (10GB Fiber Optic connections) which will allow for the high-speed transfer of data to, from, and between the two Data Centers.

**Application Growth:**

- The networking gear will have the capacity to handle growth and scalability; the hardware will provide more than sufficient data capacity to meet DHS' current needs and will also allow for modular additions as DHS' needs expand over time.
- DHS' Shared Services for Applications will minimally include the following: ORCHID (hosted offsite but data will flow through this infrastructure); Quadramed (locally hosted); Enterprise Patient Data Reporting (EPDR) (locally hosted); Fuji Picture Archiving and Communication Systems (PACS) (locally hosted); Virtualized Environment; and SAN.

**Layered Architecture:**

The network infrastructure hardware, Cisco Nexus 7000, will provide Core Routing and Aggregation with connectivity to DHS WAN, MLK Data Center and Cerner Data Centers. Nexus 5000 and 2000 will provide distribution services and connectivity to servers, that will host the applications, at 10GB and 1GB speeds respectively.

<b>Financial Analysis</b>	<p>BUDGET:</p> <p>Costs:</p> <p>One-time costs:</p> <table border="0"> <tr> <td>Hardware &amp; Software .....</td><td>\$ 1,026,324</td></tr> <tr> <td>Sales Tax.....</td><td>\$ 92,369</td></tr> <tr> <td>Support &amp; Maintenance.....</td><td>\$ 48,064 (1 year)</td></tr> <tr> <td>Plan, Design, &amp; Implementation Services .....</td><td>\$ 187,000</td></tr> <tr> <td>Trade-in credit.....</td><td>(\$409,608) <sup>1</sup></td></tr> </table> <p>Ongoing costs:</p> <p>Ongoing maintenance will be purchased via County contract using the Telecommunications Equipment and Master Services Agreement administered by ISD.</p> <p><b>Total contract Cost .....</b> <b>\$ 954,149</b></p> <p>Note:</p> <p><sup>1</sup> Credit applied for used equipment to be replaced.</p>	Hardware & Software .....	\$ 1,026,324	Sales Tax.....	\$ 92,369	Support & Maintenance.....	\$ 48,064 (1 year)	Plan, Design, & Implementation Services .....	\$ 187,000	Trade-in credit.....	(\$409,608) <sup>1</sup>
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Plan, Design, & Implementation Services .....	\$ 187,000										
Trade-in credit.....	(\$409,608) <sup>1</sup>										
<b>Risk Analysis</b>	<p>RISK MITIGATION:</p> <p>There are no significant risks in this project. This hardware purchase will ensure the reliable operation of many of DHS' business critical applications. However, any delay with this project may adversely impact several application implementations, including that of Cerner ORCHID.</p> <p>The Chief Information Security Officer (CISO) has reviewed this purchase and did not identify any IT security or privacy related issues.</p>										
<b>CIO Approval</b>	<p>PREPARED BY:</p> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;">               Sanmay Mukhopadhyay, Sr. Associate CIO         </div> <div style="text-align: center;"> <u>8-28-13</u>              Date         </div> </div> <hr/> <p>APPROVED:</p> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;">               Richard Sanchez, County CIO         </div> <div style="text-align: center;"> <u>8-28-13</u>              Date         </div> </div>										

Please contact the Office of the CIO (213.253.5600 or [info@cio.lacounty.gov](mailto:info@cio.lacounty.gov)) for questions concerning this CIO Analysis. This document is also available online at <http://ciointranet.lacounty.gov/>

## ATTACHMENT II

DESCRIPTION*	ONE-TIME COST
Hardware and Software Subtotal	\$1,026,324
Prepare, Planning, Design and Implementation Services for Nexus and ASA Subtotal	\$ 62,000
Prepare, Planning, Design and Implementation Subtotal	\$ 135,000
Maintenance & Support Subtotal	\$ 48,064.
Sales Tax	\$ 92,369.
Trade In Credit	\$ (409,608)
GRAND TOTAL	\$ 954,149.

\*This acquisition will be competitively bid by the County's Purchasing Agent.